

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)	:	Sheng-Zhi Pang, Dennis Gonsalves, and Fuh-Jyh Jan)	Examiner:
)	To Be Assigned
Serial No.	:	Continuation of 09/025,635)	Art Unit:
Cnfrm. No.	:	To Be Assigned)	To Be Assigned
Filed	:	Herewith)	
For	:	DNA CONSTRUCT TO CONFER MULTIPLE TRAITS ON PLANTS)	
)	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231
Box: Patent Application

Dear Sir:

Please amend the above identified application as follows:

In the Specification:

On page 1, line 3-line 5, please replace the paragraph beginning with “This application . . .” with the following amended paragraph:

This application is a continuation of U.S. Patent Application Serial No. 09/025,635, filed February 18, 1998, which claims the benefit of U.S. Provisional Application Serial Nos. 60/035,350 and 60/062,870.

In the Claims:

Please cancel claims 1-92 and add claims 93-121 as follows:

93. A DNA construct comprising:
a fusion gene comprising:

a plurality of trait DNA molecules at least some of which have a length that is independently insufficient to impart that trait to plants transformed with that trait DNA molecule, but said plurality of trait DNA molecules collectively impart their traits to plants transformed with said DNA construct and effect silencing of the DNA construct, wherein at least one of the trait DNA molecules is derived from a gene encoding a papaya ringspot virus coat protein.

94. A DNA construct according to claim 93 further comprising:
a promoter sequence operatively coupled to said fusion gene and
a termination sequence operatively coupled to said fusion gene to end transcription.

95. An expression system comprising the DNA construct according to claim 93.

96. A host cell transduced with a DNA construct according to claim 93.

97. A host cell according to claim 96, wherein the cell is selected from the group consisting of a bacterial cell, a virus, a yeast cell, and a plant cell.

98. A transgenic plant transformed with a DNA construct according to claim 93.

99. A transgenic plant according to claim 98, wherein the plant is papaya.

100. A transgenic plant seed transformed with a DNA construct according to claim 93.

101. A transgenic plant seed according to claim 100, wherein the plant is papaya.

102. A DNA construct comprising:
a fusion gene comprising:

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a trait DNA molecule which has a length that is insufficient to independently impart a desired trait to plants transformed with said trait DNA molecule and a silencer DNA molecule effective to achieve post-transcriptional gene silencing and operatively coupled to said trait DNA molecule, wherein said trait DNA molecule and said silencer DNA molecule collectively impart the trait to plants transformed with said DNA construct, and wherein said trait DNA molecule encodes for a papaya ringspot viral coat protein.

103. A DNA construct according to claim 102 further comprising:
a promoter sequence operatively coupled to said fusion gene and
a termination sequence operatively coupled to said fusion gene to end transcription.

104. A DNA construct according to claim 102, wherein said silencer DNA molecule is selected from the group consisting of a viral DNA molecule, a fluorescence protein encoding DNA molecule, a plant DNA molecule, a viral gene silencer, and combinations thereof.

105. A DNA construct according to claim 102, wherein said trait DNA molecule and said silencer DNA molecule encode RNA molecules which are translatable.

106. A DNA construct according to claim 102, wherein said trait DNA molecule and said silencer DNA molecule encode RNA molecules which are nontranslatable.

107. A DNA construct according to claim 102, wherein said construct effects post-transcriptional gene silencing within plants.

108. A DNA construct according to claim 102, wherein the trait DNA and silencer DNA molecules do not interact with one another.

109. A DNA construct according to claim 102, wherein the silencer DNA molecule is positioned 3' to the trait DNA molecule.

110. An expression vector comprising the DNA construct of claim 102.

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111. A host cell transduced with a DNA construct according to claim 102.
112. A host cell according to claim 111, wherein the cell is selected from the group consisting of a bacterial cell, a virus, a yeast cell, and a plant cell.
113. A transgenic plant transformed with a DNA construct according to claim 102.
114. A transgenic plant according to claim 113, wherein the silencer DNA molecule is heterologous to the plant.
115. A transgenic plant according to claim 113, wherein the plant is papaya.
116. A transgenic plant seed transformed with a DNA construct according to claim 102.
117. A transgenic plant seed according to claim 116, wherein the plant is papaya.
118. A method of imparting a trait to plants comprising:
transforming a plant with a DNA construct according to claim 93.
119. A method according to claim 118, wherein the plant is papaya.
120. A method of imparting a trait to plants comprising:
transforming a plant with a DNA construct according to claim 102.
121. A method according to claim 120, wherein the plant is papaya.

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Pursuant to 37 C.F.R. § 1.121, the marked-up version of the above amendment is appended hereto as Appendix A.

Respectfully submitted,

Date: August 29, 2001



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APPENDIX A

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO APPLICATION

In reference to the amendments made herein to the amended paragraph which begins on Page 1 at line 3 and runs through line 5, the additions appear as bolded and double-underlined text, while deletions appear as strikethrough text, as indicated below:

This application **is a continuation of U.S. Patent Application Serial No. 09/025,635, filed February 18, 1998, which** claims the benefit of U.S. Provisional Application Serial Nos. 60/035,350 and 60/062,870.

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